

Sequence Listing

<110> Japan Atomic Energy Research Institute

<120> A method for efficiently determining a DNA strand break

<130> 030217

<160> 4

<200> 1

<211> 284

<212> PRT

<213> Deinococcus radiodurans, strain KD8301

<220>

<223> Amino acid sequence of DNA repair promoting protein, PprA, of Deinococcus radiodurans, strain KD8301.

<400> 1

atg gca agg gct aaa gca aaa gac caa acg gac ggc atc tac gcc gcc 48

Met Ala Arg Ala Lys Ala Lys Asp Gln Thr Asp Gly Ile Tyr Ala Ala

1 5 10 15

ttc gac acc ttg atg agc acg gcg ggc gtg gac agc cag atc gcc gcc 96

Phe Asp Thr Leu Met Ser Thr Ala Gly Val Asp Ser Gln Ile Ala Ala

20 25 30

ctc gcc gcg agt gag gcc gac gcg ggc acg ctg gac gcg gcg ctc acg 144

Leu Ala Ala Ser Glu Ala Asp Ala Gly Thr Leu Asp Ala Ala Leu Thr

35 40 45

cag tcc ttg caa gaa gcg cag ggc cgc tgg ggc ctg ggc ctg cac cac 192

Gln Ser Leu Gln Glu Ala Gln Gly Arg Trp Gly Leu Gly Leu His His

50 55 60

ctg cgc cat gag gcg cgg ctg acc gac gac ggc gac atc gaa att ctg 240
 Leu Arg His Glu Ala Arg Leu Thr Asp Asp Gly Asp Ile Glu Ile Leu
 65 70 75 80
 acc gat ggc cgc ccc agc gcc cgc gtg agc gag ggc ttc gga gca ctc 288
 Thr Asp Gly Arg Pro Ser Ala Arg Val Ser Glu Gly Phe Gly Ala Leu
 85 90 95
 gcg cag gcc tac gcg ccc atg cag gcg ctc gac gaa cgc ggc ctg agc 336
 Ala Gln Ala Tyr Ala Pro Met Gln Ala Leu Asp Glu Arg Gly Leu Ser
 100 105 110
 cag tgg gcg gcg ctc ggc gag ggc tac cgc gct ccc ggc gac ttg ccg 384
 Gln Trp Ala Ala Leu Gly Glu Gly Tyr Arg Ala Pro Gly Asp Leu Pro
 115 120 125
 ttg gcg cag ctc aag gtg ctg atc gag cac gcc cgc gac ttc gaa acc 432
 Leu Ala Gln Leu Lys Val Leu Ile Glu His Ala Arg Asp Phe Glu Thr
 130 135 140
 gac tgg tcg gcg ggg cgc ggc gaa acc ttt cag cgc gtg tgg cgc aag 480
 Asp Trp Ser Ala Gly Arg Gly Glu Thr Phe Gln Arg Val Trp Arg Lys
 145 150 155 160
 ggc gac acc ctg ttt gtc gag gtg gcc cgg ccc gcg tcc gcc gag gcc 528
 Gly Asp Thr Leu Phe Val Glu Val Ala Arg Pro Ala Ser Ala Glu Ala
 165 170 175
 gcg ctc tcc gac gct gcc tgg gac gtg atc gcc agc atc aag gac cgc 576
 Ala Leu Ser Asp Ala Ala Trp Asp Val Ile Ala Ser Ile Lys Asp Arg
 180 185 190
 gcc ttc cag cgt gag ctg atg cgc cgc agc gag aag gac ggg atg ctc 624
 Ala Phe Gln Arg Glu Leu Met Arg Arg Ser Glu Lys Asp Gly Met Leu
 195 200 205
 ggc gcc ctg ctc ggg gct cgc cac gcc ggg gcc aag gcc aac ctc gcc 672

Gly Ala Leu Leu Gly Ala Arg His Ala Gly Ala Lys Ala Asn Leu Ala
 210 215 220
 cag ctg ccc gaa gcg cac ttc acc gtg cag gcg ttc gtg cag acc ctc 720
 Gln Leu Pro Glu Ala His Phe Thr Val Gln Ala Phe Val Gln Thr Leu
 225 230 235 240
 agc gga gcc gcc gcc cgc aac gcc gag gag tac cgc gcg gcc ctg aaa 768
 Ser Gly Ala Ala Ala Arg Asn Ala Glu Glu Tyr Arg Ala Ala Leu Lys
 245 250 255
 acc gcc gcc gct gcg ctg gag gaa tac cag ggc gtg acc acc cgc caa 816
 Thr Ala Ala Ala Ala Leu Glu Glu Tyr Gln Gly Val Thr Thr Arg Gln
 260 265 270
 ctg tcc gaa gtg ctg cgg cac ggc ctg cgc gag agc tga 855
 Leu Ser Glu Val Leu Arg His Gly Leu Arg Glu Ser Sto
 275 280 285

<200> 2

<211> 855

<212> DNA

<213> *Deinococcus radiodurans*, strain KD8301

<220>

<223> Nucleotide sequence of DNA repair promoting protein, pprA, of *Deinococcus radiodurans*, strain KD8301.

<400> 2

atggcaaggg ctaaagcaaa agaccaaacg gacggcatct acgccgcctt cgacaccttg 60
 atgagcacgg cgggcgtgga cagccagatc gccgccctcg ccgcgagtga ggccgacgcg 120
 ggcacgctgg acgcggcgct cacgcagtcc ttgcaagaag cgcagggggcg ctggggggctg 180
 gggctgcacc acctgcgcca tgaggcgcgg ctgaccgacg acggcgacat cgaaattctg 240

accgatggcc gccccagcgc ccgctgagc gagggcttcg gagcactcgc gcaggcctac 300
 gcgcccacatgc aggcgctcga cgaacgcggc ctgagccagt gggcggcgct cggcgagggc 360
 taccgcgctc ccggcgactt gccgttggcg cagctcaagg tgctgatcga gcacgcccgc 420
 gacttcgaaa ccgactggtc ggcggggcgc ggcgaaacct ttcagcgcgt gtggcgcaag 480
 ggcgacaccc tgtttgtcga ggtggcccgg cccgcgtccg ccgaggccgc gctctccgac 540
 gctgcctggg acgtgatcgc cagcatcaag gaccgcgcct tccagcgtga gctgatgcgc 600
 cgcagcgaga aggacgggat gctcggcgcc ctgctcgggg ctgccacgc cggggccaag 660
 gccaacctcg ccagctgcc cgaagcgcac ttcaccgtgc aggcgttcgt gcagaccctc 720
 agcggagccg ccgcccgcaa cgccgaggag taccgcgcgg ccctgaaaac cgccgccgct 780
 gcgctggagg aataccaggg cgtgaccacc cgccaactgt ccgaagtgt gcggcacggc 840
 ctgcgcgaga gctga 855

<200> 3

<211> 35

<212> DNA

<213> Artificial sequence

<220>

<223> Sense primer for amplifying pprA gene.

<400> 3

gggcataata aaggccatat ggcaagggct aaagc

35

<200> 4

<211> 32

<212> DNA

<213> Artificial sequence

<220>

<223> Antisense primer for amplifying pprA gene.

<400> 4

ttttggatcc tcagctctcg cgcaggccgt gc

32